DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 2
(Cache)
April 2006

NOTE: This draft plan is influenced by a public work group that is assisting DWR in developing a strategic plan for WMU 2. Therefore, changes to this plan (particularly management strategies) may occur before the April 2006 Wildlife Board meeting.

BOUNDARY DESCRIPTION

Cache, Rich, Weber, and Box Elder counties - Boundary begins at the Utah-Idaho state line and I-15; south on I-15 to US-91; northeast on US-91 to SR-101; east on SR-101 to Hardware Ranch and USFS Road 054 (Ant Flat); south on USFS 054 to SR-39; east on SR-39 to SR-16; southeast on SR-16 to the Utah-Wyoming state line; north along this state line to the Utah-Idaho state line; west along this state line to I-15.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0%	273346	55%	52358	16%
Bureau of Land Management	845	<1%	46126	9%	94909	29%
Utah State Institutional Trust Lands	245	<1%	25001	5%	28933	9%
Native American Trust Lands	0	0%	0	0%	0	0%
Private	104662	99%	146362	30%	133488	41%
Department of Defense	0	0%	0	0%	0	0%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	17	<1%
Utah Division of Wildlife Resources	81	<1%	4552	1%	11823	4%
TOTAL	105833	100%	495387	100%	321528	100%

UNIT MANAGEMENT GOALS

The primary goal is to maintain the proper balance between the number of animals in the deer herd and the forage available on the limited winter range, thereby sustaining physiologically healthy deer. Also, to provide public hunting and non-consumptive opportunities, promote additional harvest opportunities for landowners, recommend measures for highway safety, and consider private property values.

POPULATION MANAGEMENT OBJECTIVES

< Target Winter Herd Size - Maintain a target population size of 25,000 wintering deer. This population objective remains for both the short-term (5-year life of this plan) and long term, barring significant changes in range conditions.

< Herd Composition –. General Hunt portion of Cache Unit: Maintain a 3-year average postseason buck to doe ratio of 15-20:100, with 30% of these bucks being three-point-or-better. Crawford Mountain subunit, managed under Limited Entry hunting: Maintain a 3-year average post-season buck: doe ratio of 25-35:100.

< We will recommend revisions of the short-term objective if review of habitat conditions or the next range trend monitoring period (scheduled for 2006) indicates that changes are needed.

Unit 2

1994-2005 Objective:	25,000
2006-2011 Objective:	25,000
Change	0

POPULATION MANAGEMENT STRATEGIES

Monitoring

< Population Size - Utilizing harvest data, postseason and spring classifications and mortality estimates, a computer model has been developed to estimate winter population size. Over winter mortality estimates will be determined using observations of mortality, and change-in-ratios from classification data.

< Buck Age Structure - Estimates of the age class structure of the buck population will be determined primarily (directly) through the use of hunter harvested bucks at checking stations and field bag checks, and secondarily (indirectly) using post-season classification observations.

< Harvest - The primary technique used to estimate harvest over the unit is the statewide uniform harvest telephone/mail surveys. Data collected at checking stations will also be used to compare with the uniform survey. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives for buck:doe ratios. Antlerless harvest will be achieved, as needed using a variety of methods and seasons to maintain a wintering population within range carrying capacity and address depredation conflicts.

< **Additional Strategies – At the request of the Northern Region Advisory Council, a public Cache Deer Working Group developed a report to the Division that outlines issues of management concern specific to this unit's deer herd, and contains recommendations for additional strategies to address these issues (Committee Recommendations to the Utah Division of Wildlife Resources' Cache Management Unit Deer Recovery Strategic Plan, March 2006). The report identified Habitat, Hunt Management, Program Funding, Annual Recruitment, Competition and Predation, and Human Impacts as the 6 highest-priorities requiring attention to improve deer herds on the Cache Unit. The division will work with all interested parties to explore solutions to the issues identified in the working group's report during the 5-year planning period.**

Limiting Factors (May prevent achieving management objectives)

< Crop Depredation - Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Some geographic populations may be maintained below range carrying capacity due to conflicts with crop production and private landscapes.

< Habitat - Winter range is the major limiting factor on the Cache. Not only is winter range less than 30 % of the total range, but much of the winter range is in poor condition due to past fires, competition from introduced weedy species, and the lack of spring livestock grazing, as described by "Clements and Young. 1997. A viewpoint: Rangeland health and mule deer habitat. J. Range Manage. 50:129-138." Excessive habitat utilization will be addressed by antlerless harvests.

< Predation – It is clear that predators do eat deer. It is difficult to predict how predation in effecting current deer populations however. Because the population density on the Cache unit is so far below objective, a predator management plan has been drafted and cougars are being aggressively harvested on the unit. Wildlife Services has agreed to implement coyote control on the unit as well.

< Highway Mortality - The cooperation of the Utah Department Of Transportation to prevent vehicle collisions in terms of highway fences, underpasses, and earthen ramps in Wellsville Canyon, and warning signs as needed throughout the unit is greatly appreciated. A significant number of highway mortalities may tend to reduce deer populations in the following areas: Wellsville Canyon, Highway 91 between Smithfield and Richmond, and Logan Canyon. Reduced speed limits in these areas should be considered by the Department Of Transportation.

< Illegal Harvest, Crippling Loss, Disease and Parasites - Although poaching losses appear insignificant on the Cache, due primarily to a highly visible law enforcement effort, crippling losses are a concern, especially under buck-only hunting. Hunter survey studies (Austin, D.D. 1992. Great Basin Naturalist 52:364-372) suggests as many as 18 deer may be left in the field per 100 hunters. Disease is very difficult to evaluate, but high mortality in the spring is often associated with disease. The meningeal or brain worm parasite is probably the most potentially dangerous organism to mule deer. This parasite is carried without ill effects by white-tailed deer and can be transferred to mule deer, elk or moose. The animal disease diagnostic facility associated with Utah State University acts as the laboratory to identify disease problems. Chronic Wasting disease is of further concern though it has not yet been detected on the unit. Surveillance will be implemented by testing hunter harvested animals as well as targeted surveillance of symptomatic animals.

HABITAT MANAGEMENT OBJECTIVES

< Maintain, protect, and improve forage production on winter ranges, especially big game winter ranges owned by the Division of Wildlife. Annual projects of reseeding, seedling planting, and livestock grazing in spring will continue. The following wildlife management areas are available for big game on the Cache: Hardware Ranch 14,000 ac., Millville 3,477 ac., Richmond 2,066 ac., Woodruff 1,643 ac., Cold Water (new) 1,000 ac., Swan Creek 660 ac., USU (proposed but owned by DWR since 1937) 197 ac., First Dam 74 ac., and Orme 40 ac.

< Work with counties, cities, private landowners and federal agencies to maintain and protect critical and existing winter range from future losses.

< Encourage conservation easements in all ownership sectors, and additional acquisitions for DWR.
Determine through research on defined plots, species, either seed or seedling, which may be used successfully in reestablishing browse on steep and/or rocky slopes not conducive to mechanical treatments.

< **Additional Strategies – At the request of the Northern Region Advisory Council, a public Cache Deer Working Group developed a report to the Division that outlines issues of management concern specific to this unit's deer herd, and contains recommendations for additional strategies to address these issues (Committee Recommendations to the Utah Division of Wildlife Resources' Cache Management Unit Deer Recovery Strategic Plan, March 2006). The report identified Habitat, Hunt Management, Program Funding, Annual Recruitment, Competition and Predation, and Human Impacts as the 6 highest-priorities requiring attention to improve deer herds on the Cache Unit. The division will work with all interested parties to explore solutions to the issues identified in the working group's report during the 5-year planning period.**

Condition of deer winter range on Unit 2, as indicated by DWR range trend surveys.

Year	Mean DCI score for Unit	Classification	Unit-specific DCI score range: Poor	Unit-specific DCI score range: Fair	Unit-specific DCI score range: Good
1996	47	Fair	27 - 41	42 – 58	59 - 74
2001	49	Fair			

HABITAT MANAGEMENT STRATEGIES

Data will be collected about every five years on the 40-plus permanent trend transects on the Cache. These data will be evaluated as related to deer management by the biologist.

Revegetation of poor condition rangeland and winter ranges damaged by wildfire will be accomplished as time and materials are available.

PERMANENT RANGE TREND DATA SUMMARIES

Unit 2 Cache

Twenty-nine permanently marked study sites were established in 1984 on the Cache unit. During the 1990 survey season, 5 new sites were added, and in 1996, 6 additional sites were added for a total of 40. Data are available in: Davis et al. 1996, Volume 1. Utah big game range trend studies. Ut. Div. Wildl. Res. Publ. No. 98-9. Since 1996 additional sites have been added, especially on State Wildlife Management Areas, but these data are unpublished. Data analyzed from the 29 available sites between 1984 and 1996 indicated a downward trend in shrub density. Specifically, big sagebrush decreased from about 3,300 to 2,700 plants/acre, antelope bitterbrush decreased from about 600 to 550 plants/acre, and rabbitbrush decreased from about 1900 to 1600 plants/acre. Decrease in shrub density is believed to have mostly occurred between 1984 and 1990 during periods of high deer population and unfavorable climatic conditions. Between 1990 and 1996, the number of sites per browse trend category were: down = 6, slightly down = 2, stable = 21, slightly up = 7, up = 4. These data suggest a mostly stable browse trend over the unit, 1990-1996. Between 1996 and 2001, the browse trend is considered to be stable or slightly up, due to favorable winter climatic conditions and decreased deer populations. Beginning in 1996, the 100 foot individual transect lines used for vegetal measurement, and not just the 500 foot location line, were permanently marked to increase the accuracy of data collection.

Duration of Plan

This unit management plan was approved by the Wildlife Board on _____ and will be in effect for five years from that date, or until amended.